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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,249	02/11/2004	Ji-Sook Kim	P57026	1106

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07/16/2007

EXAMINER

KARIKARI, KWASI

ART UNIT PAPER NUMBER

2617

MAIL DATE DELIVERY MODE

07/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/775,249

Applicant(s)

KIM ET AL.

Examiner

Kwasi Karikari

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26, 28-33, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) 1-20, 27, and 34 canceled is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 21-26, 28-33, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments during the telephonic interview with the Examiner have been fully considered and are persuasive. Therefore, the Advisory Action of 05/07/2007 has been withdrawn. However, upon further consideration, an appropriate Final rejection is made in view of Cyr (U.S. 6,223,055), in view of Bedingfield et al. (U.S. 20040110465).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-26, 28-33 and 35-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 21 and 30, the applicant recites the limitations "the virtual wired phone number assigned to the internal mobile communication terminal", however, there are insufficient prior antecedent basis for these limitations in the claims. Thus, "the virtual wired phone number" was never or beforehand "assigned to **the internal mobile communication terminal**". However, "the virtual wired phone numbers" were specifically "assigned to a **plurality of mobile communication terminals** (see claims 21 and 30).

For examination purposes, the examiner will treat the rejected claimed limitations in the broadest interpretation of the Applicant's specification. Appropriate corrections are required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 21-26, 28-33 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cyr (U.S 6,223,055), (hereafter Cyr) in view of Bedingfield et al. (U.S. 20040110465), (hereinafter Bedingfield).

Regarding **claim 21**, Cyr discloses a system for operating wired and wireless phone services interconnectively, the system (wired and wireless system, see Fig. 1) comprising:

a private base station controller (pBSC) (in-building wireless base station 230) that is connected with a public switched telephone network (PSTN) (PSTN 101, see Fig. 1) and a private base station transceiver system (pBTS) (see col. 2, lines 3-8) and provides a mobile communication service to a mobile communication terminal (120) (see col. 2, line 62- col. 3, line 19; and col. 2, lines 3-9); and a group exchange (see PBX 140, see Fig. 1) that is connected with the PSTN, and a plurality of mobile communication terminals (items 120,150 and 120A-D, see Fig. 1) existing in a mobile zone as a management region (in-building, item 110, see Fig. 1) of the pBTS, and provides a public wired phone service () to the mobile communication terminals, and provides a wired phone service to a wired terminal (phone 150 without associated wireless terminal, see col.3, lines 42-56) existing outside the mobile zone (see col. 3, line 20- col. 4, line 19; and col. 5, line 45- col. 6, line 13); but fails specifically to teach and assignment of virtual wired phone numbers and wherein, when receiving a request for an outgoing service from an internal mobile communication terminal, the group exchange changes a caller identification (CID) into the virtual wired phone number assigned to the internal mobile communication terminal, and calls a called terminal via the PSTN.

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-40, 0045-48 and 0055).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a

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system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 22**, as recited in claim 21, Cyr discloses the system, wherein the group exchange calls the mobile communication terminal (PBX rings wired and wireless extensions, see col. 3, lines 31-61); but fails to mention that the extension telephone numbers are virtual telephone numbers.

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-39, 0045-47 and 0055])

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 23**, as recited in claim 21, Cyr discloses a multiple terminating services (simultaneous ringing, see col. 3, lines 55-61); but fails to disclose that a database for storing, for each arbitrary wired phone number, information indicating whether or not each of the wired phone numbers is a virtual phone number.

However, Bedingfield teaches a database for storing, for each arbitrary wired phone number, information indicating whether or not each of the wired phone numbers is a virtual phone number (see Pars. [0018 and 0047]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 24, as recited in claim 23, Cyr discloses the system, wherein the group exchange simultaneously calls the wired terminal corresponding to the wired phone number and the mobile communication terminal when the wired phone number registered with the multiple terminating service is called (simultaneous ringing, see col. 3, lines 55-61). Regarding claim 25, as recited in claim 21, Cyr fails to disclose the system, wherein the pBSC comprises a database for storing the virtual wired phone number assigned to each of the mobile communication terminals and a mobile identifier number (MIN) of the mobile communication terminal corresponding to the virtual wired phone number.

However, Bedingfield teaches wherein the pBSC comprises a database for storing the virtual wired phone number assigned to each of the mobile communication terminals and a mobile identifier number (MIN) of the mobile communication terminal corresponding to the virtual wired phone number (see Pars. [0018-19 and 0047]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a

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system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 26**, as recited in claim 21, Cyr fails to disclose the system, wherein the group exchange is connected to the PSTN through No. 7 signaling.

However, Bedingfield teaches connection between PSTN and No. 7 (see items 36,38 and 46 in Fig. 2).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 28**, as recited in claim 21, Cyr fails to disclose the system, wherein when receiving a request for the outgoing service from the internal mobile communication terminal, the pBSC checks a service type identifier defining which one of a private network service and a public network service the internal mobile communication terminal requests.

However, Bedingfield teaches wherein when receiving a request for an outgoing service from an internal mobile communication terminal, the pBSC checks a service type identifier defining which one of a private network service and a public network service the internal mobile communication terminal requests (profile includes subscriber service preference, see Par. [0017-18]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 29**, as recited in claim 28, Cyr discloses the system, wherein the pBSC relays an outgoing call to the group exchange when the internal mobile communication terminal requests the private network service, and relays the outgoing call to the PLMN when the internal mobile communication terminal requests the public network service (see col. 4, lines 59- col. 5, line 7).

Regarding **claim 30**, Cyr discloses a method for operating wired and wireless phone services interconnectively, the method comprising the steps of:

assigning, by a group exchange (PBX), phone numbers to a plurality of mobile communication terminals existing in a mobile zone as a management region of a private base station transceiver system (pBTS) (PBX rings wireless and wired extension, see col. 3, lines 30-61);

providing, by the group exchange, a wired phone service to a wired terminal existing outside the mobile zone; and providing, by the group exchange, a public wired phone service to the mobile communication terminals by linking the mobile identifier numbers (MINs) of the mobile communication terminals,

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see col. 3, lines 30-61); but fails specifically to teach and assignment of virtual wired phone numbers and when the group exchange receives a request for an outgoing service from an internal mobile communication terminal, changing, by the group exchange, a caller identification (CID) into the virtual wired phone number assigned to the internal mobile communication terminal, and calling a called terminal via a public switched telephone network (PSTN).

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-40, 0045-48 and 0055])

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 31**, as recited in claim 30 Cyr discloses the method, wherein in the step of providing the public wired phone service, when the group exchange receives an incoming call through a public switched telephone network (PSTN), the group exchange calls the mobile communication terminal (col. 3, lines 20-61); but fails to teach virtual wired phone number.

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-39, 0045-47 and 0055])

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a

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system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding **claim 32**, as recited in claim 30, Cyr further discloses the method further comprising the step of simultaneously calling, by the group exchange, the wired terminal corresponding to the wired phone number and the mobile communication terminal when the wired phone number registered with the multiple terminating service is called (simultaneous ringing, see col. 3, lines 55-61).

Regarding **claim 33**, as recited in claim 32, Cyr further discloses the method comprising the step of rerouting, by the group exchange, an incoming call to a public switched telephone network (PSTN) or a public land mobile network (PLMN) when the called wired terminal and the mobile communication terminal make no response (col. 3, lines 20-61).

Regarding **claim 35**, as recited in claim 30, Cyr further discloses the method comprising the step of, when a private base station controller (pBSC) receives a request for an internal service from an outgoing mobile communication terminal, checking, by the pBSC, a service type identifier defining which one of a private network service and a public network service the internal mobile communication terminal requests (col. 3, lines 20-61; and col. 4, line 46- col. 5, line 64).

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Regarding **claim 36**, as recited in claim 35, Cyr further discloses the method further comprising the steps of: relaying, by the pBSC, an outgoing call to the group exchange when the internal mobile communication terminal requests the private network service; and relaying, by the pBSC, the outgoing call to a public land mobile network (PLMN) when the internal mobile communication terminal requests the public network service (col. 3, lines 20-61; and col. 4, line 46- col. 5, line 64).

Conclusion

4. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

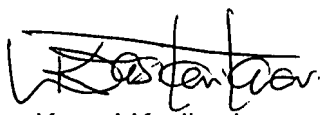
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Rafael Pérez-Gutiérrez* can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kwasi Karikari
Patent Examiner.
07/02/2007


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